

NOVEMBER/DECEMBER 2023

CMB41 — MICROBIAL GENETICS

Time ~~Three~~ hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is start and stop codon?
2. Define – Plasmid.
3. Define – mutation.
4. Give two examples of physical mutagen.
5. What is translation?
6. Give any two types of gene transfer methods.
7. What is repressor protein?
8. Define – Gene regulation.
9. What is Insertion sequence?
10. Give two examples of transposons.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Give a detailed account on Griffith experiment.

Or

- (b) Explain in brief about Messelson and Stahl's experiment.

12. (a) What are the classification of chemical mutagens?

Or

- (b) What is the principle and procedure of Ames test?

13. (a) Give an account on concept of gene and operon.

Or

- (b) Write down the stages of transcription.

14. (a) Write a detail note on gene regulation of eukaryotes.

Or

- (b) Give a concise note on lac operon.

15. (a) Write an account on E. coli genetic mapping.

Or

- (b) Give an account on T₄ phage.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Give an elaborate account on types and significance of plasmids.

17. Write a detailed account on SOS response of DNA repair mechanism.

18. Explain in detail about specialized transduction.

19. Give an account on trp operon.

20. Write a detailed account on types of transposable elements.

